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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,847	07/08/2003	Youichi Kawakami	15162/06010	9171

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EXAMINER

BITAR, NANCY

ART UNIT	PAPER NUMBER
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2624

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Please find below and/or attached an Office communication concerning this application or proceeding.

JK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/614,847	KAWAKAMI, YOUICHI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Nancy Bitar	2193	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/08/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION*****Claim Objections***

1. **Claim 14-17** objected to because of the following informalities:

Claims 14-17 are objected where line 1 of claim 14-17 recites "The program product". Claims 14-17 are dependent upon claim 12, which is directed towards a "method." Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

*Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.*

3. **Claims 13-18** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 13 is drawn to functional descriptive material recorded on a computer readable program product causing a computer to obtain an edge image or a moving object, the product causing the computer to execute the steps of. Normally, the claim would be statutory. However, the specification, [0057] defines the claimed computer readable medium as encompassing statutory media such as a "CD-ROM", "ROM", a "RAM", a memory card or a similar, as well as ***non-statutory*** subject matter such as "downloading through a network". Therefore does not fall within one of the four statutory classes of § 101. Because the full scope of the claim as

properly read in light of the disclosure encompasses non-statutory subject matter, the claim as a whole is non-statutory.

***Claim Rejections - 35 U.S.C. § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –*

*(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.*

5. **Claims 1,3-5,7,9-11,13,15-17** are rejected under 35 U.S.C. § 102(e) as being anticipated by Courtney et al. (US 6,424,370 B1).

In **claim 1**, Courtney et al. discloses an apparatus (object detection system, column 1, line 5) obtaining an edge image of a moving object (object detection for scene change analysis, column 1 line 5) comprising:

An image capturing unit (camera 11, Fig 1) capturing an image of an object, (objects are recorded and tracked through successive frames, column 3 line 3) said image capturing unit (camera 11) capturing a first image (image 1) and a second image (image 2) at a time different than said first image, (Moving object are detected in a video sequence, column 3 line 1) *where sequence can be defined as a following of one thing after another in time*. In addition, Courtney et al. also teaches that said second image (image 2) having a background identical to that of said first image (image 1)(two

images of a scene obtained from the same viewpoint (column 3,line67)) and a controller exerting control (image differencing and thresholding method, column 4 line 3) to obtain a first differential image (change region of image 1,column 4 line 48) based on said first image (image 1, Fig 3) and a second differential image (change region of image 2, Fig 3(c)) based on at least one image including said second image (image 2, Fig 3(b)) and perform an operation(Sobel operator) on said first and second differential images) to produce an edge image of a moving object. (Figure 3(e), Fig 3(f)).

In **claim 3** Courtney et al. also teaches that the said controller binaries (Th binary image; column 7, line 31) each of said first and second differential images (absolute difference of images  $I_n$  and  $I_o$ ) prior to said operation. (morphological close operation; column 7, line 54-57).

In **claim 4** Courtney et al. also teaches that said operation includes an operation logically ANDing together said first and second differential images, or logically ORing said first and second differential images. (Column 5 line 2-5).

In **claim 5**, Courtney et al. teaches the apparatus of claim 1, wherein said controller after said operation (morphological close operation, column 7 line 58) exerts control to perform a thin line process or a noise removal (removes speckle noise, column 7 line 60) process to produce said edge image. (FIG.7; column 7, line 58).

**Claims 7,9-12** differs from claims 1,3-6 only in that claim 7,9-12 are a method claim whereas; claims 1,3-6 are an apparatus claim. Thus, claims 7,9-12 are analyzed as previously discussed with respect to claims 1,3-6 above.

**Claims 13, 15-17** differs from claims 1-6 only in that claims 13, 15-17 are a computer readable program claim whereas; claims 1-6 are an apparatus claim. Thus, claim 13-18 is analyzed as previously discussed with respect to claim 1-6 above. Therefore, Courtney et al. meets each of the limitations of these claims and anticipates the claimed invention.

***Claim Rejections - 35 U.S.C. § 103***

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

**Claim 2, 6, 8, 12,14, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Courtney et al as applied to claim1, 7, and 13 above, and further in view of Monroe et al. (US 6,078,619) .

In **claim 2**, Courtney et al teaches said second differential image is an image obtained by calculating a motion difference of said first and second images (column 9 line 16). Courtney et al. fails to teach where in said first differential image is an image obtained by calculating a spatial difference of said first image. Monroe et al. discloses the apparatus (10) wherein said first differential image (24) is an image obtained by calculating a spatial difference (40) of said first image (24) and said second differential image (26) is an image obtained by calculating a motion difference (28) of said first (24) and second images (26)(Column 4, line 16-20). It would have been obvious to one of

ordinary skill in the art at the time of the invention was made to include the feature of calculating the spatial difference as taught by Monroe et al into Courtney et al. The motivation to combine Monroe et al with Courtney et al. would be where the calculation of the spatial difference and motion difference as taught by Monroe would reduce the bandwidth required to provide an image of a given fidelity (column 1 line 47).

In **claim 6**, Courtney et al teaches that second differential image is an image obtained by calculating the motion difference of said first and second image (column 9 line 14-17). Courtney et al. fails to teach the calculation of a spatial difference of said motion difference. Monro et al. teaches that second differential image is the image obtained by calculating the motion difference (28) of said first and second images and further calculating a spatial difference (40) of said motion difference (Fig 1).

**Claims 8,12** differ from claims 2,6 only in that claims 8,12 are a method claim whereas, claims 2,6 are an apparatus claim. Thus, claims 8,12 are analyzed as previously discussed with respect to claims 2,6 above.

**Claims 12,14,18** differ from claims 2,6 only in that claims 12,14,18 are a computer readable program claim whereas; claims 2,6 are an apparatus claim. Thus, claims 12,14,18 are analyzed as previously discussed with respect to claim 2,6 above.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsugo et al (US 6,453,069) teaches a method of extracting image from input image using a reference image.

Swartz Peter et al. (US 6,014,182) teach a motion detector that helps in

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extraction of an edge image. Each of the references cited without copies provided was cited in the parent application and is therefore made of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nancy Bitar whose telephone number is 571-270-1041. The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on 571-272-0000. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nancy Bitar

  
CHANH NGUYEN  
PRIMARY EXAMINER